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SUMMARY OF WATER QUALITY STANDARDS FOR INTERSTATE WATERS OF THE DISTRICT OF COLUMBIA

Federal Water Quality Administration
Charlottesville, Virginia

1 July 1970

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WATER QUALITY STANDARDS SUMMARY FOR INTERSTATE WATERS OF THE DISTRICT OF COLUMBIA

Department of the Interior
Federal Water Quality Administration
918 Emmet Street
Charlottesville, Virginia 22901

Water Quality Control Division
District of Columbia Department
of Public Health
801 N. Capitol Street, N.E.
Washington, D.C.

July 1, 1970

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SUMMARY OF WATER QUALITY STANDARDS FOR INTERSTATE WATERS OF THE DISTRICT OF COLUMBIA

INTRODUCTION

In the Water Quality Act of 1965, Congress authorized the establishment of water quality standards for interstate (including coastal) waters. The purpose of these standards is to protect and enhance the quality and productivity of the Nation's interstate waters to serve a variety of beneficial uses, such as public water supply, recreation, protection of aquatic life, and industrial and agricultural uses. This publication summarizes the standards for the general information of the American public and Federal, State, and local officials as to the uses and associated requirements for interstate waterways.

The Act, which amended the Federal Water Pollution Control Act, provided for the States to have the first opportunity to establish standards for their interstate waters, which were then subject to review and approval by the Secretary of the Interior. All of the states, the District of Columbia, and the territories of Guam, Puerto Rico, and the Virgin Islands, participated in this landmark effort to set standards. In the course of establishing the standards, public hearings were held by the States and other jurisdictions noted above to give the public an opportunity to participate in setting water quality objectives and standards.

The standards for interstate waters which the District of Columbia adopted on June 29, 1967, were then submitted to the Department of the Interior.

With some exceptions, the Standards were partially approved by the Secretary of the Interior on April 17, 1968. Subsequent revisions were then approved by the Secretary of the Interior on January 17, 1969, and with the approval of these revisions, the standards became fully approved as both the District of Columbia and Federal standards, enforceable under the District's water pollution control statutes and the Federal Water Pollution Control Act, as amended (Section 10). The waters for which standards were adopted are shown on the map in Figure 1.

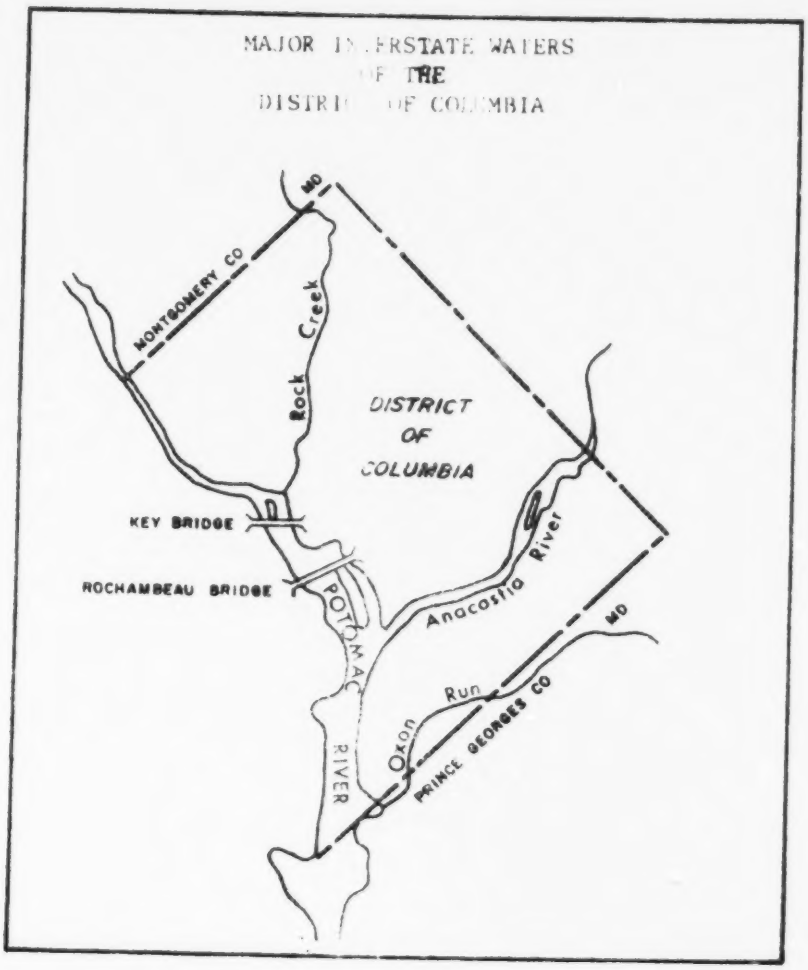
The standards consist of three major components: (1) designation of the uses which interstate waters are to serve, (2) specification of narrative and numerical criteria to protect and enhance water quality, and (3) specification of a plan of implementation and enforcement, including treatment and control requirements for municipal, industrial, and other wastes discharged to or affecting interstate waters. All three of these components, discussed in the following sections, are essential to a complete standards program.

The standards are now being implemented. However, there will be continuing research on water quality requirements for various beneficial uses and improved collection and evaluation of water quality data. As more information becomes available and experience with implementing the standards is gained, the standards will be refined and improved to reflect this new knowledge.

Should more detailed information be required on any aspect of the standards, it may be obtained from the District of Columbia Department

of Public Health, Water Quality Control Division, 801 N. Capitol Street, N.E., Washington, D.C. 20002; or the Federal Water Quality Administration, Middle Atlantic Region, 918 Emmet Street, Charlottesville, Virginia 22901.

FIGURE 1



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WATER QUALITY STANDARDS SUMMARY
FOR
INTERSTATE WATERS
OF THE
DISTRICT OF COLUMBIA

WATER QUALITY STANDARDS SUMMARY

Section 1. General Scope

The general aim in designating uses for particular interstate waters is to recognize present uses and practicable future uses: to provide where possible for a variety of uses; and to assure compatibility of standards with Federal, State, and local resource planning. In order to satisfy the intent of the Federal Water Pollution Control Act to enhance water quality, the standards specifically provide that no interstate waters may be used solely or primarily for waste assimilation. All interstate waters must be aesthetically pleasing, and this quality is usually protected by narrative criteria, which, as set forth in Section 4, prevents unsightly or obnoxious conditions, such as floating debris, oil slicks, unpleasant odors, and colors.

Section 2. Water Uses

The District of Columbia designates the following use categories to be protected for their various interstate waters:

Water Contact Recreation

Wading

Fish and Wildlife Propagation

Recreational Boating

Maintenance of Fish Life

Industrial Water Supply

The above uses are listed in Table 1, page 7.

Section 3. Water Quality Criteria

The protection of water quality and uses requires the establishment of numerical and narrative limits on pollutants which damage the uses. The water quality criteria in this section reflect the best scientific judgment available

as to the water quality requirements for the assigned uses. Numerical criteria are used wherever it is reasonable to do so. However, narrative criteria are also necessary in some cases, particularly with respect to aesthetic considerations.

Some interstate waters have a higher quality than the minimum levels assigned for protection of water uses, and the standards seek to protect this higher quality as much as possible in the face of increasing social and economic development. Scientific knowledge about the exact water quality requirements for use is limited, and by preventing degradation of high quality waters, the standards seek to assure optimum, not marginal conditions to protect the uses associated with clean waters.

Section 6A shows the water quality criteria and uses for specific streams in the District of Columbia. In addition to the specific criteria and general criteria, the standards contain the following statement concerning degradation of high quality waters:

> There are no waters within the District of Columbia whose existing quality is better than the quality indicated by the established standards. Accordingly, it is the policy of the District of Columbia to improve the quality of all its waters as reflected in the standards. All industrial, public, and private sources of pollution will be required to provide the degree of waste treatment necessary to meet the water quality standards. In implementing this policy, the Secretary of the Interior will be kept advised and will be provided with such information as he will need to discharge his responsibilities under the Federal Water Pollution Control Act, as amended.

The water quality criteria applicable to the interstate waters of the District of Columbia shall include the General Criteria set forth in Section 4 and the specific criteria assigned to the individual zones listed in Section 6A. The key for specific criteria shown in Section 6A refers to Table II, on page 7.

The assigned criteria applies to an entire stretch of the stream. However, reasonable allowance shall be made for the mixing and dispersion of approved discharges. Sampling frequency shall provide a sound basis for computations. Within the limits of field conditions, sampling point locations will be selected to permit the collection of representative samples.

The criteria shall apply to all stream flows equal to or exceeding the 7 day, 10 year minimum flow except where, and to the extent that natural conditions prevent their attainment.

Section 4. General Criteria

The waters of the District of Columbia shall at all times be free from:

A. Substances attributable to sewage, industrial waste, or other waste that will settle to form sludge deposits that are unsightly, putrescent, or odorous to such degree as to create a nuisance, or that interfere directly or indirectly with water uses;

B. Floating debris, oil, grease, scum, and other floating materials attributable to sewage, industrial waste, or other waste in amounts sufficient to be unsightly to such a degree as to create a nuisance, or that interfere directly or indirectly with water uses;

C. Materials attributable to sewage, industrial waste, or other waste which produces taste odor, or appreciably change the existing color or other physical and chemical conditions in the receiving stream to such degree as to create a nuisance, or that interfere directly or indirectly with water uses, or which are harmful to human, animal, plant, or aquatic life.

Section 5. Specific Criteria

The specific criteria assigned to the water and zone listed in Section 6A is keyed to this table as well as to the excerpt, Table II, on page 7.

Section 6. Designated Water Uses and Water Quality Criteria

Through the public hearing process, the District of Columbia has adopted the designated water uses and water quality assigned to the individual streams listed in Section 6A. The water uses listed for the individual streams are

keyed to Table II. In addition to the designated water uses and water quality criteria, the individual stream listings describe the zone to which these uses and criteria apply and include a reference to a plate number in the Appendix. Generally, the plate covers a larger portion of the stream than that in which the designated zone falls. A location grid is also included to facilitate the relationship of the numbered plate with its location within the Middle Atlantic Region of the Federal Water Pollution Control Administration.

PLATE	WATER / ZONE	WATER USES ASSIGNED	SPECIAL CRITERIA									
			DISSOLVED OXYGEN (mg/l)		COLIFORM (BACTERIA / 100 ml)		TEMPERATURE			pH		OTHER
			MINIMUM DO	DAILY AV DO (unless noted as monthly average)	FECAL (see Sec II Table II)	TOTAL (see Sec II Table II)	ALLOWABLE INCREASE °F	MAXIMUM ALLOWABLE (°F)	NARRATIVE (see Sec II TABLE II)	MINIMUM	MAXIMUM	(see Sec II Table II)
C4	Potomac River & Tribs. D.C.-Montgomery Co.(Md.) line to vicinity of Key Bridge	2.1*; 4.1; 4.3; 4.4; 5.3	4.0	5.0	d2**		5	90	a	6.0	8.5	
C4	Vicinity of Key Bridge to Rochambeau Memorial Bridge	4.4; 5.1; 5.3	4.0	5.0	e2**		5	90	a	6.0	8.5	
C4	Rochambeau Memorial Bridge to D.C.-Prince Georges Co.(Md.) line	4.4; 5.1; 5.3	3.0	4.0	e2**		5	90	a	6.0	8.5	
C4	Rock Creek & Tribs. D.C.-Montgomery Co.(Md.) line to mouth	2.3*; 4.1; 4.3	4.0	5.0	c1**		5	90	a	6.0	8.5	ac-1**
C4	Anacostia River & Tribs. D.C.-Prince Georges Co. (Md.) line to mouth	4.4; 5.1; 5.3	3.0	4.0	e2**		5	90	a	6.0	8.5	
C4	Oxon Run & Tribs. D.C. line at Mississippi Ave., S.E., to D.C. line in vicinity of Nichols Ave., S.W.	4.1; 4.3	4.0	5.0			5	90	a	6.0	8.5	

* Use predicated on suitable water quality at the Md.-D.C. line. D.C. will protect this use in suitable areas of this zone. (The objective date for swimming in the Potomac River above Key Bridge is 1975).

** Not applicable during or immediately following periods of rainfall.

TABLE I

USES
For
District of Columbia Standards

Key		Key	
2.1	Water Contact Recreation (anticipated future use)	4.4	Recreational Boating
2.3	Wading	5.1	Maintenance of Fish Life
4.1;4.3	Fish and Wildlife Propagation	5.3	Industrial Water Supply

TABLE II

SPECIFIC CRITERIA
For
District of Columbia Standards

Column	Criteria/Key/Limits	Column	Criteria/Key/Limits
D.O.	Dissolved Oxygen	Temp.	Temperature
Minimum	Minimum Dissolved Oxygen level not less than the value (mg/l) shown.	Increase	Increase(°F) No increase in natural water temp. caused by artificial heat inputs shall exceed the value shown (°F.) after reasonable allowance for mixing.
Average	Daily average dissolved oxygen not less than the value (mg/l) shown.	Maximum	Maximum limit (°F.) Maximum water temperature not to exceed the value shown (°F.)
Bact.	Bacteriological		
Fec.	Fecal Coliform	Special	Additional special temp. limits
	c1.. not to exceed 200/100ml		a..there shall be no sudden or localized temperature changes that may adversely affect aquatic life.
	d2..not to exceed 240/100ml in 90% of the samples collected each month.		
	e2..not to exceed a geometric mean of 1000/100 ml. nor equal or exceed 2000/100 ml. in more than 10% of the samples	pH	pH (range between minimum and maximum)
		Min.	Minimum pH value for zone
		Max.	Maximum pH value for zone
		Other	(Criteria other than above)
		ac-1	Turbidity - Creek bottom to be visible in wading areas during wading season.

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IMPLEMENTATION PLAN
FOR
INTERSTATE WATERS
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IMPLEMENTATION PLAN

A. General

The "action" plan of the standards is the plan of implementation and enforcement. This plan sets forth the requirements for treatment and/or control of all conventional municipal, and industrial waste discharges in the District of Columbia which affect interstate waters; specifies the time in which this is to be accomplished; and contains programs for dealing with other water pollution control problems. In general, all bio-degradable wastes will be given the level of treatment that is required to meet the standards and an equivalent level of treatment will be provided for non-biodegradable wastes. The program which provided a secondary type treatment in the District of Columbia began in 1949. Other than an objective date of 1975 for water contact recreation above Key Bridge in the Potomac River, the District of Columbia has established a target date of 1972 for attaining water quality standards in their interstate streams.

As part of the continuing implementation program, the District of Columbia participated in the May 8, 1969, Federal Enforcement Conference for the Potomac River, Washington Metropolitan Area. The Conferees explored various avenues for enhancing the water quality of the Potomac River, one of which is to provide additional treatment at the District of Columbia Water Pollution Control Plant by 1977, designed to remove at least 96 percent of the BOD, 96 percent of the phosphate, and 85 percent of the nitrogen from the wastewater. Similar requirements were established for other sewage treatment plants located in the Conference area.

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Information on the requirement for any particular discharger may be obtained from the Department of Public Health, Water Quality Control Division, 801 N. Capitol Street, N.E., Washington D.C. 20002.

B. Combined Sewer Overflows And Storm Water

A program to separate the existing combined sewers into sanitary and storm systems was begun in 1937 on a scale which is worthwhile as to local results but it will extend into the next century to complete the entire city. Separate sewer systems now serve 68 percent of the total area within the District of Columbia. Recent research on the quality of storm water from urban areas and Federal legislation (Water Quality Act of 1965) raise questions concerning the feasibility of abandoning this plan in favor of a storage and/or treatment plant. This problem and alternate solutions will be re-evaluated as the results of FWPCA sponsored research become available. No date can be set for the elimination overflows until the nature and cost of the required construction are known.

C. Advanced Waste Treatment

The need to provide advanced waste treatment to improve water quality, including a nutrient removal, has been determined by the Federal Water Pollution Control Administration's study of the Potomac Estuary. This analysis, together with the results obtained from joint research projects at the District of Columbia Water Pollution Control Plant, as well as research performed elsewhere, will form the basis for engineering decisions concerning advanced waste treatment.

D. Industrial Wastewaters

Industrial wastewaters, while significant, are not the major sources of pollution in the District of Columbia. Sand, gravel, and cooling waters resulting from power production constitute the bulk of industrial wastewater. In terms of volume, the thermal discharges probably exceed the total of all other industrial wastewaters.

Several Federal installations discharge inorganic solids resulting from heating plant operations. These waste sources were surveyed by Federal Water Pollution Control Administration and the owner agencies. To date, controls have not been instituted.

The sand, gravel and concrete processors were surveyed in 1968 and 1969 by the Department of Public Health. Administrative actions to obtain control were started. The volume of wastewaters derived from these sources is small, although accurate flow estimates are not available.

During the summer of 1969, the Potomac Electric Power Company, in cooperation with the Department of Public Health and the Federal Water Pollution Control Administration, conducted a field study of the thermal effects of condenser cooling discharges from three generating stations (Potomac, Buzzard Point and Benning). The object of the study is to establish: (1) whether the water quality standards are being violated and if so, to what extent; (2) mixing zones; and (3) a basis for predicting the effect of planned additions to the Benning Station. The study and report are complete and being evaluated.

The most recent addition to the Benning Station uses 100 percent recirculated water (cooling tower). Future additions will be similarly equipped and will permit the retirement of old, inefficient units.

The Potomac Electric Power Company study will be followed by a Federal Water Pollution Control Administration biological study scheduled to begin in the fall of 1969.

E. Wastes from Vessels and Marinas

Effective treatment devices for wastes from vessels have not yet been developed. Technological advancement followed by national enforcement programs are needed.

Marinas in the District of Columbia are not, in themselves, sources of pollution. However, the pleasure craft berthed at these facilities create local pollution problems. To control such pollution, the Department of Public Health submitted proposed regulations to the Commissioner in April 1968. After several revisions, the regulations were presented at a public hearing conducted by the City Council on March 12, 1969. A regulation to control pollution from watercraft was enacted by the City Council, approved by the Mayor on December 26, 1969, and becomes effective August 1, 1971. Cooperation from the Federal government in controlling pollution from military, coastal, and transoceanic vessels is also needed.

F. Land Erosion

While land erosion and the resulting sediment may be the most serious pollution problem in the Potomac River Basin, the contribution of the District of Columbia probably represents a small portion of the over-all problem. At the request of the Department of Public Health, the Interstate Commission of the Potomac River Basin employed the services of a consultant who reported on the extent of the soil erosion problem in the District of Columbia. Subsequently, sediment control regulations were developed by the Department of Public Health and approved by the City Council on April 11, 1970.

G. Floating Debris

This is a special problem. Some control was afforded by the efforts of the District of Columbia Department of Sanitary Engineering until 1966. From 1956 to 1966, that agency collected and disposed of 6.5 million pounds of floating debris from the Anacostia River and Washington Channel. A more comprehensive program was developed by the Corps of Engineers, Baltimore District. Collection of floating debris by specially designed barges has been underway since 1968.

H. Surveillance

The Water Pollution Control Plant of the District of Columbia has full time laboratory control which provides complete monitoring of discharges to the river. Samples are collected and analyzed by the D.C. Department of Sanitary Engineering and are analyzed in accordance with the latest edition of the "Standard Methods for the Examination of Water and Wastewater," APHA, WPCF.

The District collects samples from approximately 50 locations in the general area of the District of Columbia. Although the sampling frequency may vary from station to station, each individual station has been scheduled a frequency which conforms to the overall program. All related sampling sites are assigned the same program frequency. Automatic monitoring is performed by FWPCA at: (1) Arlington Memorial Bridge; (2) Woodrow Wilson Bridge; (3) Fort Washington, Maryland; and (4) Indian Head, Maryland.

Samples are analyzed for the parameters best suited to reflect the water quality at the sampling site. Additional parameters will be evaluated as needed.

A special laboratory facility for the detection and measurement of pesticide residues and other trace compounds in water was partially developed by the Department of Public Health. Technical and space problems have prevented implementation of the pesticide analysis program.

APPENDIX

GLOSSARY OF TERMS

Advanced Waste Treatment- refers to methods and processes that will remove more contaminants from wastewater than are usually removed in present day conventional treatment plants. The processes may be physical, chemical, or biological. Examples of advance waste treatment are carbon columns, electrolytic coagulation, reverse osmosis, electrodialysis, and ion exchange.

Bacteria- A group of test organisms which are used as indicators of the sanitary quality of the water. Fecal coliform bacteria is the specific test organism selected by the District of Columbia for this purpose. Bacterial concentrations originate primarily from municipal waste treatment plants, sanitary and combined sewers, storm drains, vessels and agricultural wastes.

Biochemical Oxygen Demand (BOD)- The quantity of oxygen utilized in the biochemical oxidation of organic matter in a specified time and at a specified temperature. Waste discharges containing high levels of BOD will deplete oxygen supplies in receiving waters.

Disinfection - The killing of the larger portion (but not necessarily all) of the harmful and objectionable micro-organisms in, or on, a medium by means of chemicals, heat, ultraviolet light, etc. Chlorination is the method commonly employed in sewage treatment processes.

Dissolved Oxygen (D.O.) - The oxygen dissolved as a gas in sewage, water, or other liquid usually expressed in milligrams per liter (mg/l), parts per million (ppm), or percent saturation. Adequate dissolved oxygen levels are necessary in waters to protect fish and other aquatic life and to prevent offensive odors. Low dissolved oxygen concentrations are generally due to excessive organic solids discharged as a result of

inadequately treated waste (having high BOD); excessive algal growths may cause vastly fluctuating dissolved oxygen levels, and other factors such as temperature and water movement have an impact on dissolved oxygen levels.

Interstate Waters - Under the Federal Water Pollution Control Act, interstate waters are defined as:

1. rivers, lakes, and other waters which flow across or form a part of State or international boundaries;
2. waters of the Great Lakes;
3. coastal waters - whose scope has been defined to include ocean waters seaward to the territorial limits and waters along the coastline (including inland streams) that are influenced by the the rise and fall of the tide.

pH - The index of hydrogen ion activity, used as an indication of acidity or alkalinity in waters. The pH of most waters ranges from 6.5 to 8.5, and most uses of water, such as aquatic life propagation, prosper at these levels. In most cases, a pH outside this range is due to discharge of industrial wastes or decaying organic vegetation.

Pollution - The addition of sewage, industrial wastes or other harmful or objectionable material to water at a concentration or in sufficient quantity to result in measurable degradation of water quality.

Secondary Treatment - May be defined as that process or group of processes capable or removing virtually all floating and settleable solids, generally from 80 to 95 percent of the 5-day biochemical oxygen demand, and a similar level of removal of suspended solids in untreated waste. The equivalent treatment may generally be defined as that process or group of processes achieving maximum practicable removal of solids, oils, grease, acids, alkalis, toxic materials, bacteria, taste and odor

causing materials, color and any other objectionable constituents contained in untreated waste to produce an effluent equivalent to that obtained from secondary treatment facilities in current use for any specific category of industrial waste.

Sewage- (1) The water supply of a community after it has been used and discharged into a sewer, (2) wastewater from the sanitary conveniences of dwellings, business buildings, factories and other institutions.

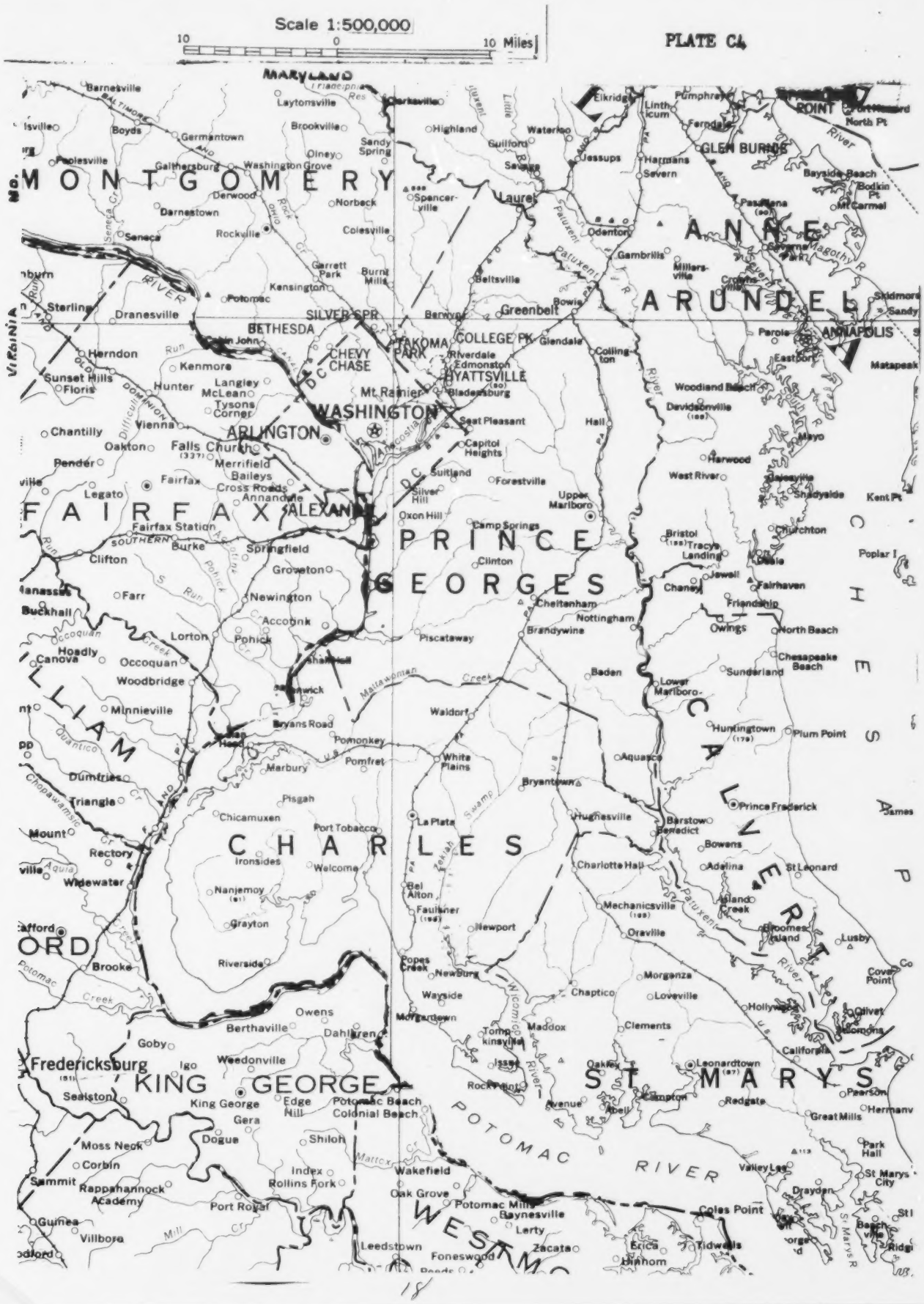
Sewage, Combined - A sewage containing both sanitary sewage and surface or storm water with or without industrial wastes.

Sewer, Combined -A sewer which carries both sanitary sewage and storm drainage. Where combined sewers are used, the capacity is usually exceeded at times of heavy rainfall and the sewers overflow, discharging combined sewage directly into streams without treatment of any kind.

Temperature - A measure of the heat content of water. While stream temperature is affected naturally, man significantly affects it through the construction and operation of dams and the discharge of cooling waters from industrial processes, particularly power generation.

Toxic Materials- Materials which are harmful to human, plant animal and aquatic life. These may include hundreds of compounds present in various waters such as industrial waste discharges or runoff from where pesticides have been applied.

E X H I B I T S


Scale 1:500,000
10 0 10 Miles
PLATE C4
MARYLAND
MONTGOMERY
PRINCE GEORGES
ANNE ARUNDEL
FAIRFAX
ALEXANDRIA
CHARLES
CALVERT
ST MARYS
KING GEORGE
WESTMORELAND
POTOMAC RIVER
WASHINGTON
ARLINGTON
BETHESDA
SILVER SPR
CHEVY CHASE
TAKOMA PARK
COLLEGE PK
HYATTSVILLE
GLEN BURNIE
ANNAPOLIS
Laurel
Greenbelt
Bowie
Odenton
Severna Park
Crofton
Gambrills
Millersville
Beltsville
Calverton
Kensington
Garrett Park
Burnt Mills
Wheaton
Glenmont
Aspen Hill
Rockville
Gaithersburg
Germantown
Clarksburg
Damascus
Olney
Sandy Spring
Ashton
Brookeville
Laytonsville
Barnesville
Poolesville
Boyds
Dickerson
Darnestown
Derwood
Norbeck
Colesville
Spencerville
Highland
Waterloo
Guilford
Jessups
Harmans
Severn
Linthicum
Ferndale
Pumphrey
Elkridge
Baltimore
Washington
Potomac
Seneca
Sterling
Dranesville
Herndon
Reston
Vienna
Oakton
Falls Church
Merrifield
Baileys Cross Roads
Annandale
Fairfax
Legato
Pender
Sunset Hills
Floris
Hunter
Langley
McLean
Tysons Corner
Chantilly
Difficult Run
Dominion
Occoquan
Lorton
Hosdly
Canova
Farr
Buckhall
Manassas
Clifton
Springfield
Burke
Fairfax Station
Groveton
Newington
Accotink
Pohick
Woodbridge
Occoquan
Minnieville
Dumfries
Triangle
Quantico
Chopawamsic Cr
Mount
Rectory
Aquia
Widewater
Stafford
Brooke
Potomac Creek
Aquia Creek
Riverside
Grayton
Chicamuxen
Pisgah
Port Tobacco
Ironsides
Welcome
Nanjemoy
Marbury
Pomfret
Bryans Road
Pomonkey
Mattawoman Creek
Waldorf
White Plains
La Plata
Bel Alton
Faulkner
Newport
Popes Creek
Newburg
Wayside
Morgantown
Owens
Berthaville
Dahlgren
Goby
Fredericksburg
Weedonville
Igo
Sealston
King George
Edge Hill
Potomac Beach
Colonial Beach
Gera
Dogue
Shiloh
Moss Neck
Corbin
Sammit
Rappahannock Academy
Index
Rollins Fork
Port Royal
Guinea
Villboro
Mill Cr
Leedstown
Foneswood
Wakefield
Oak Grove
Potomac Mills
Baynesville
Lerty
Zacata
Erica
Tidwells
Dinhom
Coles Point
Drayden
Valley Lee
St Marys City
Park Hall
Great Mills
Hermanville
Leonardtown
Oakley
Clements
Maddox
Tompkinsville
Issue
Rock Point
Avenue
Abell
Compton
Redgate
Pearson
Morgonza
Loveville
Chaptico
Wicomico River
Mechanicsville
Oraville
Charlotte Hall
Bryantown
Hughesville
Barstow
Benedict
Bowens
Adelina
St Leonard
Island Creek
Broomes Island
Lusby
Cove Point
Olivet
California
Hollywood
Prince Frederick
Aquasco
Huntingtown
Plum Point
Sunderland
Chesapeake Beach
North Beach
Owings
Lower Marlboro
Baden
Brandywine
Nottingham
Cheltenham
Piscataway
Clinton
Camp Springs
Oxon Hill
Silver Hill
Suitland
Forestville
Capitol Heights
Seat Pleasant
Mt Rainier
Bladensburg
Edmonston
Riverdale
Glendale
Collington
Hall
Upper Marlboro
Jewell
Chaney
Tracys Landing
Bristol
Fairhaven
Friendship
Churchton
Shadyside
Kent Pt
Poplar I
Eastport
Parole
Matapeake
Woodland Beach
Davidsonville
Harwood
West River
Mayo
Edgewater
Millersville
Crownsville
Severn
Magothy R
Meadows
Pasadena
Bodkin Pt
Mt Carmel
Bayside Beach
Sandy Point
North Pt
Point
Patuxent River
Potomac River
Rappahannock River
Occoquan Creek
Aquia Creek
Potomac Creek
Chopawamsic Cr
Quantico Cr
Pohick Run
Accotink Run
Difficult Run
Mattawoman Creek
Zekiah Swamp
Wicomico River
Patuxent River
Rock Cr
Seneca Cr
Little Falls
Jones Cr
Matthews
Mill Cr
Potomac Creek
Aquia Creek
Chopawamsic Cr
Quantico Cr
Pohick Run
Accotink Run
Difficult Run
Mattawoman Creek
Zekiah Swamp
Wicomico River
Patuxent River
Rock Cr
Seneca Cr
Little Falls
Jones Cr
Matthews
Mill Cr

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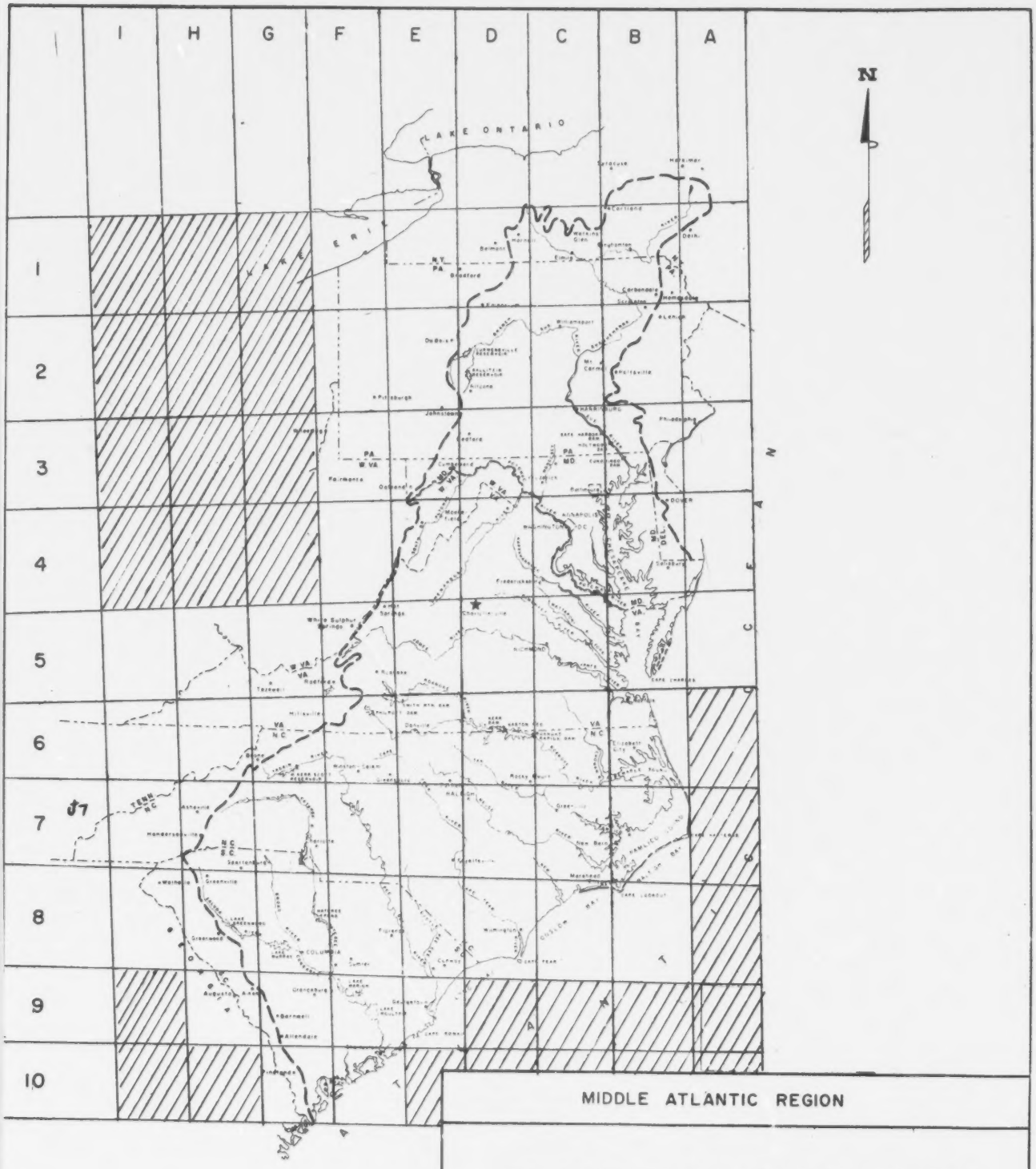

MIDDLE ATLANTIC REGION

PLATE LOCATION GRID

U. S. DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION
REGIONAL OFFICE CHARLOTTESVILLE, VA.